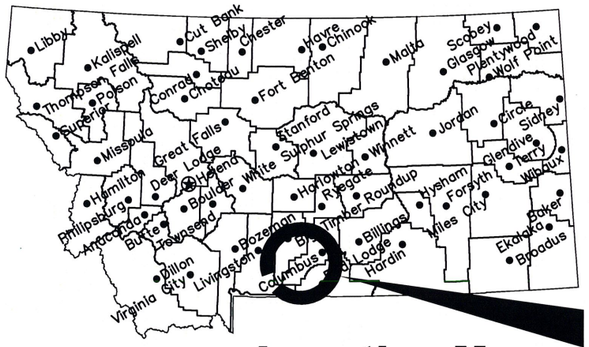
PROPOSED SITE IMPROVEMENTS at the

CLIFF SWALLOW FISHING ACCESS SITE

NEAR ABSAROKEE, MT

FWP #7133725

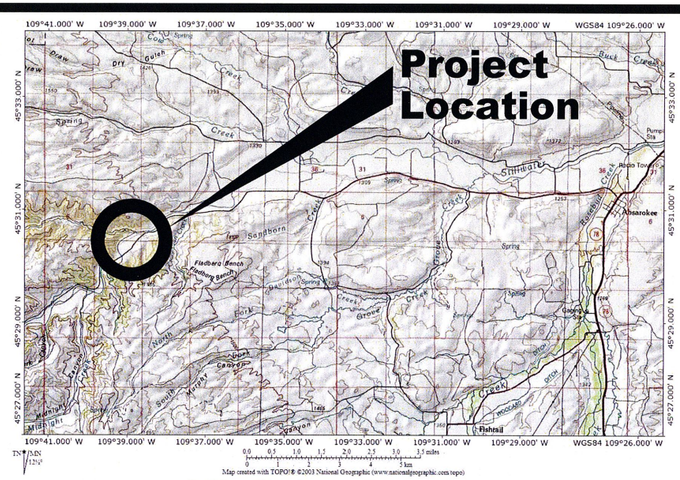


Location Map

No Scale

Project Location

North



Vicinity Map

No Scale

MONTANA FISH, WILDLIFE AND PARKS
DESIGN AND CONSTRUCTION SECTION

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HELENA, MT 59620-0701

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HELENA, MT 59601

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DRAWING INDEX

1 COVER SHEET
2 OVERALL SITE PLAN
3 GRADING PLAN
4 SITE DETAILS
5 LATRINE DETAILS

MONTANA
JASON A. SENN
No. 21922 PE
8/15/15
LICENSED PROFESSIONAL ENGINEER

J. Senn	8/14/15				
DRAWN BY:	DATE:	APPROVED BY:	DATE:	APPROVED BY:	DATE:
M. McNearney	8/17/15				
CHECKED BY:	DATE:	APPROVED BY:	DATE:	APPROVED BY:	DATE:

Montana Fish, Wildlife & Parks

TITLE SHEET

NEAR ABSAROKEE, STILL WATER COUNTY

SHEET: 1 of 5

ESTIMATED QUANTITIES

MATERIAL	QUANTITY	UNIT
BASE BID		
EXCAVATION (W/ON-SITE DISPOSAL)	363	CY
4" MINUS PIT RUN, 6" DEPTH	2,746	SY
3/4" MINUS CBC, 4" DEPTH	2,746	SY
GRAVEL BOAT RAMP	1,120	SF
BARRIER ROCKS	70	EA
CONCRETE WHEEL STOPS	21	EA
SIGN POSTS	4	EA
REVEGETATION	0.20	AC
BMP (WATTLE)	50	LF

NOTES:

1. SALVAGE ALL EXISTING SIGNS ENCOUNTERED DURING EXCAVATION CONSTRUCTION. RESET AS DIRECTED BY THE PROJECT REPRESENTATIVE, SEE TECHNICAL SPECIFICATION, 02112.
2. OWNER WILL ESTABLISH INITIAL SURVEY CONTROL AND ALIGNMENT GRADE STAKES, SEE TECHNICAL SPECIFICATION 01050, FIELD ENGINEERING FOR ADDITIONAL CONTRACTOR SURVEYING REQUIREMENTS.
3. CONTRACTOR CAN USE THE EXISTING AND PROPOSED FOOTPRINT FOR STAGING AND STOCKPILING, WITH EXCEPTIONS, SEE TECHNICAL SPECIFICATION 01010.
4. ANY UTILITIES DEPICTED ON THESE PLANS ARE IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEER'S DOCUMENT ASCE 38, "STANDARD FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

LEGEND

EXISTING FEATURES
- CONTROL POINT (CP2)
- EDGE OF ROAD
- BARBED WIRE FENCE

PROPOSED FEATURES
- LATRINE
- GRAVEL SURFACING
- BARRIER ROCK
- BMP (WATTLE)
- GRAVEL BOAT RAMP

Point Table

Point #	Elevation	Northing	Easting	Description
3	1006.58	9868.19	5119.06	CP2
4	1005.58	9919.45	5300.97	CP3
1	1000.00	10000.00	5000.00	CP1

J. Senn 8/14/15			
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M. McNearney 8/17/15			
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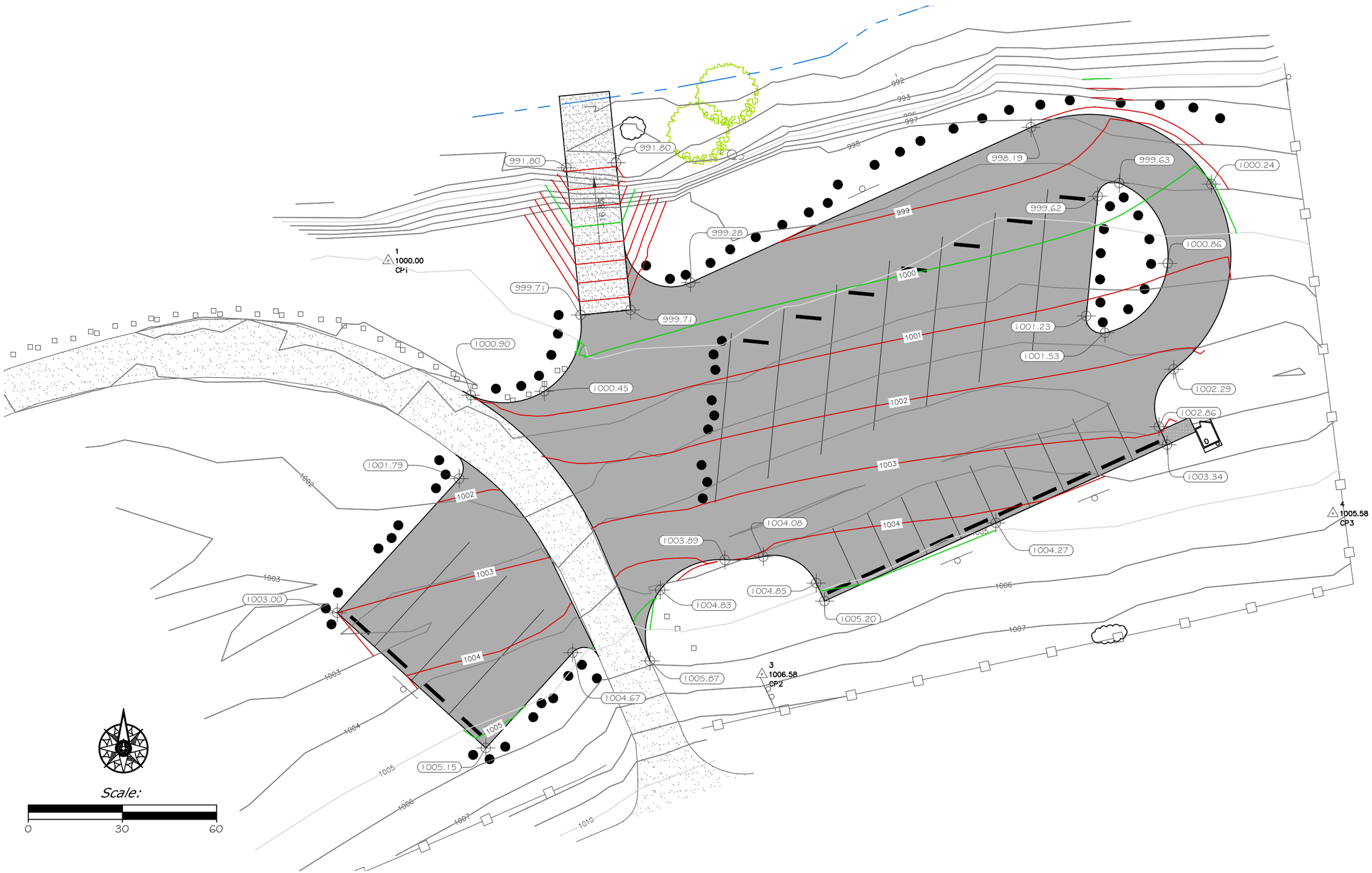
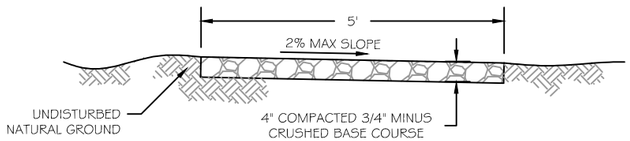
OVERALL SITE PLAN
NEAR ABSAROKEE, STILL WATER COUNTY

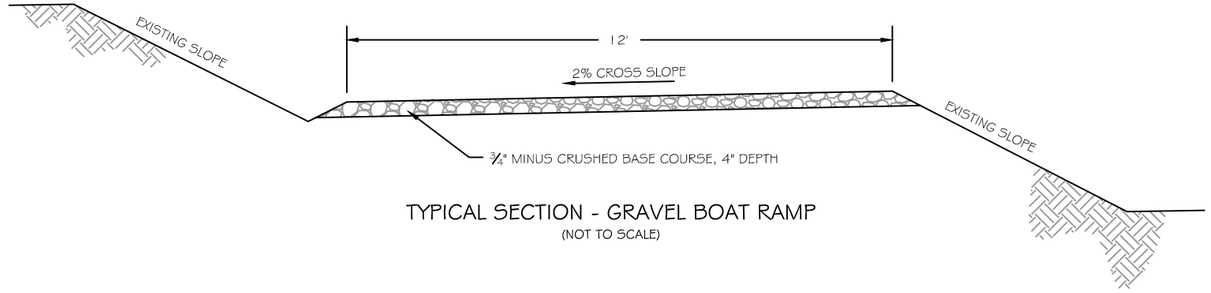
SHEET: 2 of 5



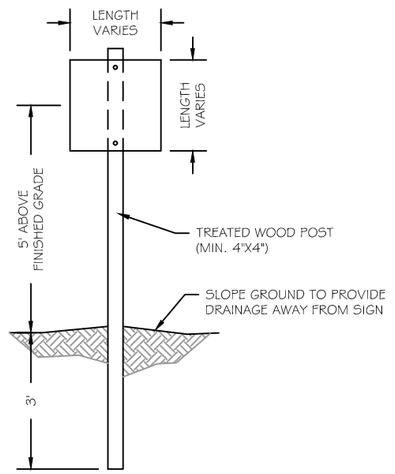
J. Senn 8/14/15 DRAWN BY: DATE:	REVISED BY: DATE:	APPROVED BY: DATE:	Montana Fish, Wildlife & Parks	GRADING PLAN NEAR ABSAROKEE, STILL WATER COUNTY	SHEET: 3 of 5
M. McNearney 8/17/15 CHECKED BY: DATE:	APPROVED BY: DATE:	APPROVED BY: DATE:			



TYPICAL PATH DETAIL
(NOT TO SCALE)

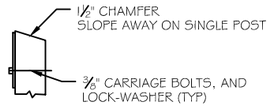


TYPICAL SECTION - GRAVEL BOAT RAMP
(NOT TO SCALE)



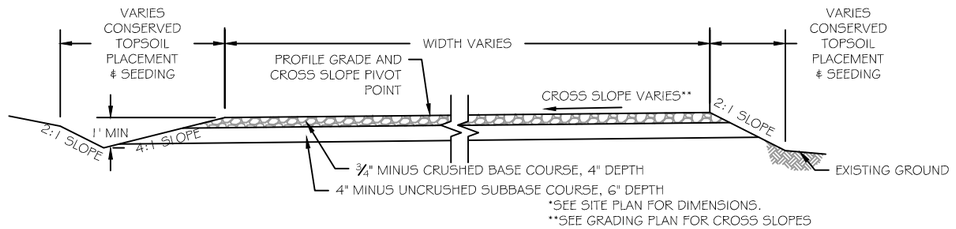
SIGN POST MOUNTING DETAIL
(NOT TO SCALE)

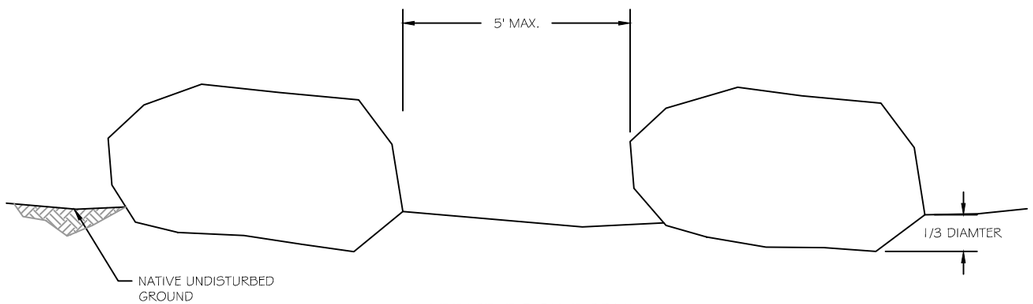
NOTES:
1. USE PRESSURE TREATED TIMBERS FOR ALL SIGN POSTS. NEED BREAK-AWAY HOLES (OR DEVICE) FOR LARGER POSTS.
2. COAT ALL POSTS WITH PRESERVATIVE FOR ALL DRILLED HOLES AND CUT SURFACES.
3. USE CADMIUM PLATED OR GALVANIZED STEEL FOR ALL BOLTS, NUTS & WASHERS.
4. PLACE BOLTS TO NOT INTERFERE WITH SIGN LETTERING. PAINT BOLT HEADS TO MATCH SIGN.
5. CENTER SINGLE POST PANELS TO POST, OVERHANG PANELS 3" BEYOND POSTS FOR DOUBLE POST INSTALLATIONS. EXTEND ALL POSTS 3" ABOVE SIGN PANELS.
6. SEE BREAK-AWAY DETAIL FOR POSTS LARGER THAN 4 INCHES IN DIAMETER.



TYPICAL CHAMFER DETAIL

TYPICAL SECTION NO.
(Not to Scale)



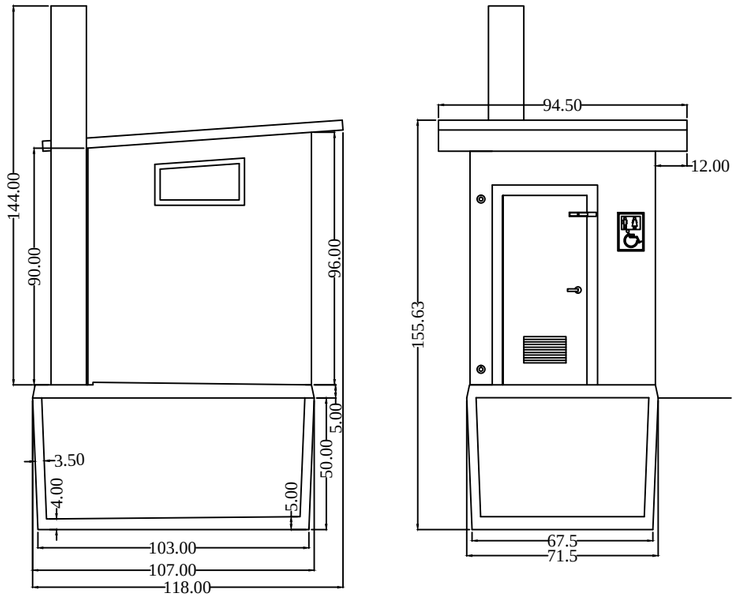


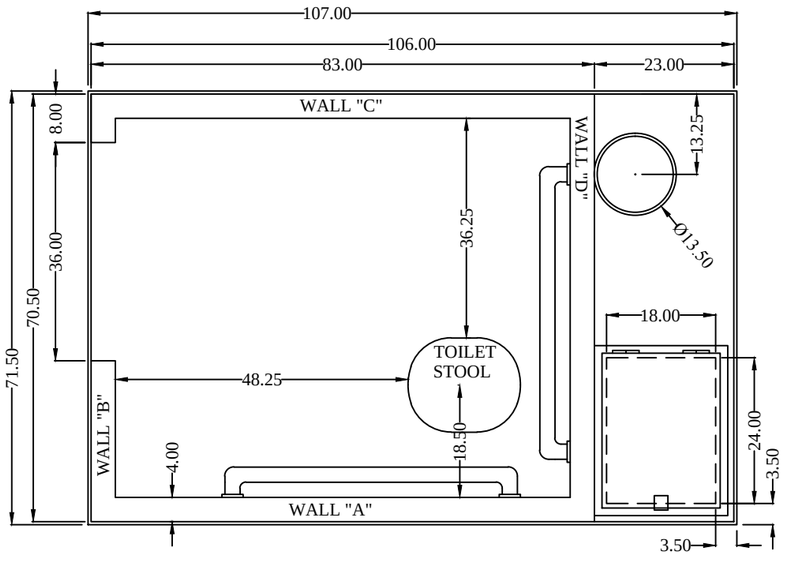
BARRIER ROCK DETAIL
(NOT TO SCALE)

NOTES:
1. EMBED BARRIER ROCKS 1/3 OF BARRIER DIAMETER.
2. BACKFILL EACH BOULDER WITH BARRIER ROCK EXCAVATION MATERIAL.
3. SPACE BARRIER ROCKS AT A MAXIMUM DISTANCE OF 5 FT (EDGE TO EDGE).
4. PLACE BARRIER ROCKS 5-6 FT FROM EDGE OF ROAD (EDGE TO Gravel).

J. Senn 8/14/15					
DRAWN BY: DATE:	REVISED BY: DATE:	APPROVED BY: DATE:	Montana Fish, Wildlife & Parks	SITE DETAILS	SHEET: 4 of 5
M. McNearney 8/17/15				NEAR ABSAROKEE, STILL WATER COUNTY	
CHECKED BY: DATE:	APPROVED BY: DATE:	APPROVED BY: DATE:			

For Information Only
Latrine Suppied By Other





CONSTRUCTION

The latrine must be constructed to meet the following requirements:

1. The vault must be watertight, constructed of durable material, and not subject to excessive corrosion, decay, frost damage, or cracking.
2. The access or pumping port should be located outside of any structure and should have a minimum diameter of 8 inches. This access must have a tight, locking lid.
3. The pit privy (latrine structure sitting on the vault) must be located to exclude surface water, be constructed with openings to greater than $\frac{1}{16}$ inch to prohibit access of insects, be vented with a screened flu or vent stack having a sectional area of at least 7 inches per seat and extend at least 12 inches above the roof, be constructed on a level site with the base of the building being at least 6 inches above the natural ground surface as measured 18 inches from the sides of the building, and the bottom of the pit should be between 3 feet and 6 feet below the original ground surface.

INSTALLATION

General Installation involves excavation, leveling bottom of hole with drain aggregate, installing latrine, backfilling around latrine and landscaping.

EXCAVATION

A. Excavate subsoil to a point 12 inches deeper than required for latrine installation.

   1. Depth of excavation is 50 inches for the precast latrines manufactured by Flathead Concrete.

   2. Finish floor elevation shall be a minimum of 4-6 inches above natural grade measured at the front entrance.

B. Minimize over excavation. Stockpile excavated material for later backfilling and landscaping.

C. Compact bottom of hole with three passes of whacker or skid plate compaction device.

LEVELING

A. Use small gravel, 3/8 inch minus gravel, and place enough in bottom of hole such that when compacted, it will be 12 inches deep.

B. Compact leveling material with three passes of compaction device.

C. Level base for installation of latrine.

LATRINE INSTALLATION

A. The precast latrine will be set by the supplier.

B. Insure that latrine sits level and plumb when done installing.

BACKFILLING

A. Place a foot of 3/8 inch gravel around base of vault and compact.

B. Place in successive 8 inch layers material previously excavated from hole and compact.
   1. Remove rocks larger than 6 inches in diameter from the fill.

   2. Remove branches, roots and other or organic debris in fill.

LANDSCAPING

A. Slope grade away from latrine.

B. Blend fill slope into surrounding terrain.

C. Remove surplus fill material.

D. Remove soil to a depth of 2 inches beneath location for entrance slab and compact.

E. Place two inches of 3/4 inch pea gravel for bedding, level and compact.

J. Senn 8/14/15 DRAWN BY: DATE: M. McNearney 8/17/15 CHECKED BY: DATE:	REVISED BY: DATE: APPROVED BY: DATE:	APPROVED BY: DATE: APPROVED BY: DATE:

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LATRINE DETAIL
NEAR ABSAROKEE, STILL WATER COUNTY

SHEET: 5 of 5